



---

PPD Electrical Engineering Department

---

August 19, 2010

A design review of the Simple Smoke-Detector Interlock Box (SSDIB) for use in the Spares Rack for MINERvA was conducted on August 18, 2010. The reviewers considered the electrical safety, the soundness of the design approach, and the mechanical robustness of the assembly as it has been fabricated.

The SSDIB monitors the status of a smoke detector sensor and, if the sensor detects smoke, the SSDIB sends a signal to a power distribution chassis to shut off power to the rack and sends a signal to an uninterruptible power supply (UPS) to inhibit the output of the UPS, thereby shutting off UPS-backed power to the rack.

The reviewers are Bob DeMaat, Tom Fitzpatrick, and Scott Holm.

Jamieson Olsen provided the committee with the SSDIB box and documentation.

Two recommendations were made were made by the committee.

- 1) Break the sharp edges of the corners of the aluminum panels comprising the top and bottom surfaces of the box in order to reduce the risk of people suffering a laceration resulting from casual contact with the sharp corners.
- 2) Address a concern inside of the box where a small portion of AC power connections are exposed at the location where the wires are crimped to pin sockets. This can be addressed with shrink tubing.

These two issues have subsequently been addressed by Jamieson and the reviewers approve the use of the Simple Smoke-Detector Interlock Box for the MINERvA Detector Spares Rack.

Bob DeMaat (for the committee)